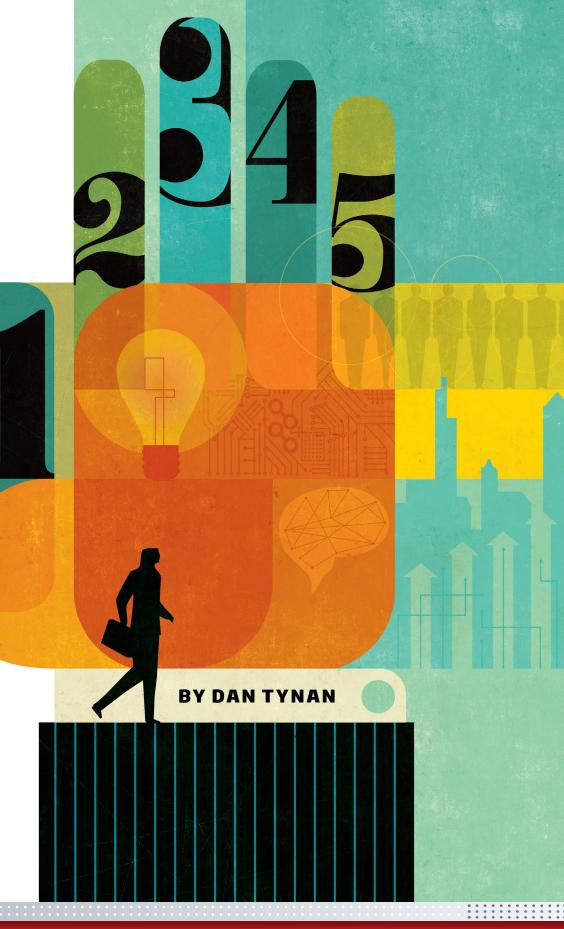If you think technology leaders' jobs have changed a lot over the past few years, just wait. Here are five new roles all CIOs must take on in the years ahead.

5 NEW ROLES CIOS MUST MASTER

BY DAN TYNAN

IT'S MORE THAN AN UNDERSTATEMENT to say the role of technology leaders has changed over the past few years.

The widespread adoption of cloud computing and process automation has reduced the demands for IT departments to keep the lights on. Large-scale capital expenditures on infrastructure are being replaced by increased operating expenses on services. Meanwhile, the pressure to take an active leadership role in the business's digital transformation is greater than ever.

"If you looked at CIOs 10 years ago, they spent an inordinate amount of time in the lower parts of the stack and in the data center," says Archana Rao, CIO for Atlassian, the maker of collaboration tools Trello and Jira. "The emergence of cloud and business process automation have shifted us away from old-school operational CIOs and into business enablers."

In a few years, we'll see the emergence of "*The Bionic CIO*," predicts Jay Venkat, senior partner and managing director for Boston Consulting Group (BCG).

"They'll transcend what's traditionally been called information technology and teach the business how to become more digitally enabled," he says. "They'll need to understand not only technology but also its impact on the workforce. And if they want to become *The Bionic CIO*, they'll have to upskill themselves."

WHAT WILL THE CIO JOB LOOK LIKE IN FIVE YEARS? Technology leaders will need to be equally adept at five new roles.

ROLE #1

Chief **innovation** officer

In the age of digital transformation, tech leaders really have just two options: become the agent of that transformation or be reduced to a caretaker role. That's why the "I" in CIO really needs to stand for "innovation," says Renee Lahti, CIO for Hitachi Vantara, a data storage systems provider.

"I've actually tried to change my title to chief innovation officer," says Lahti. "If we don't do that, we'll end up seeing chief data officers or CTOs usurp the creative aspects of our roles, and we'll be left making sure the lights are blinking in the data centers and answering the 'I forgot my password' service desk questions."

Today's CIOs are a lot like chief financial officers used to be 30 or 40 years ago, says Angela Yochem, chief digital and technology officer at Novant Health, a large healthcare provider based in the Southeast.

"A few decades ago, the CFO went from minding some investments and ensuring SEC requirements were met to someone who legitimately makes a ton of money for the company," she says. "Once the CEO and the shareholders figured out that CFOs could be big money makers, they started sitting at the right hand of the CEO. I think it's reasonable to expect a similar evolution to happen in the role of the senior-most technology person."

But many CIOs who rose through the ranks due to their technical acumen are going to have a hard time making the transition, says Ken Piddington, CIO, U.S. Silica.

"Traditional **technologists** aren't always the best business leaders."
— **KEN PIDDINGTON**, CIO, U.S. SILICA

dington, now CIO U.S. Silica, a provider of industrial silica products.

"Traditional technologists aren't always the best business leaders," he admits. "They like to stay inside their comfort zone behind the firewall. But the real opportunity for us and our organizations is to step outside that firewall and drive change. We need to be able to change who we are in order to fit the situation our organizations are in."

ROLE
#2

Chief inclusion officer

A key agenda item for future CIOs will be to focus more time and effort on diversifying their workforce. That's true today, and it will be even more true tomorrow. Having a diverse staff enhances the decision-making process and leads to better outcomes, says Rao.

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>
> —**ARCHANA RAO,** CIO, ATLASSIAN

team or looking across my organization, I'm really looking for a mix of talent that's going to drive diversity of thought," says Rao. "If everyone I hire has the same background as me, come from the same companies or are the same gender, we're going to come at a problem the same way. I'm looking for people that come at problems from different angles."

So far, the tech industry's record for diversity in hiring is pretty abysmal. According to the National Center for Women & Information Technology, only one in four technology-related jobs is held by a woman, and just 20 per-

cent of Fortune 500 companies have female CIOs. The picture looks even worse when measuring race and ethnicity. A March 2017 Business Insider analysis of the diversity reports from top technology companies found that 80 to 95 percent of tech personnel are white or Asian.

However, the situation is slowly improving. According to a 2019 report by Redthread Research and Mercer, the use of diversity and inclusion technology — recruiting, development and retention tools that help identify candidates from underrepresented populations — is on the rise.

There are also bottom-line arguments for diversity a CFO or CEO can get behind. During a 2017 keynote, CompTIA CEO Todd Thibodeaux noted that a 1 percent increase in diversity hiring correlates to a 3 percent annual increase in revenue — which could generate a boost of some $400 billion industry-wide.

But the primary reason is that a diverse workforce will enable CIOs to do their jobs better, says Lahti.

"You get those wicked problems solved more thoroughly with a very diverse workforce," she says. "And it's not just things like whether they're LGBTQ+.

It's about where they're located in the world, their background, their beliefs, the color of their hair — anything that can help us solve those problems better. As technology leaders, we need to be front and center on that."

ROLE #3

Chief (artificial) intelligence officer

Machine learning and artificial intelligence may be buzzwords the C-suite loves to throw around, but most still expect IT to make the artificial intelligence (AI) magic happen.

According to a May 2019 survey by CompTIA, 60 percent of large organizations expect their existing IT staff to provide resources for the company's AI projects, while just under half also expect to add AI-savvy hires. Less than 10 percent say their AI projects will be han-

dled primarily by business teams.

The main thing future CIOs will need to understand is the art of the possible, says Piddington.

"I won't need to know the specifics of how to use platform A, B or C, or how to aggregate data in a particular way," he says. "But I've got to know all the foundational components. I need to understand what's possible with the technology so I can build the right team, help them engage with their peers and deliver value to the organization through analytics."

When it comes to things like machine learning and AI, CIOs shouldn't be the smartest people in the room, agrees Lahti. But

they'll need to know enough to take advantage of AIOps and DataOps, have a deep understanding of issues surrounding algorithmic bias and ethics, and make strategic decisions based on data.

"CIOs will no longer just look in the rear-view mirror to see if they can remember something that happened in the past that can help with a current issue," she says. "They'll have the ability to manage with predictive analytics."

But they need to start preparing now, says BCG's Venkat.

"The IT organization will have to support different kinds of AI algorithms and curate data in

a completely different way," he says. "They need to start thinking about what data they need to collect today, so that in five years, the AI algorithms can actually be productive."

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of large organizations expect their existing IT staff to provide resources for the company's AI projects.

SOURCE: MAY 2019 SURVEY BY COMPTIA

"When it comes to things like machine learning and AI, CIOs **shouldn't be** the **smartest people** in the room."

—**RENÉE LAHTI**, CIO, HITACHI VANTARA

> "Our ability to **evangelize technology** and tell a story that embeds the business strategy is extremely important."
>
> **–RON GUERRIER,** CIO AND SECRETARY OF INNOVATION AND TECHNOLOGY, STATE OF ILLINOIS

ROLE #4

Chief **inspiration** officer

Today's CIOs need to identify the technologies that will drive their organizations forward and explain to the CFO and CEO why they're necessary. Tomorrow's tech leaders will need to articulate a vision for the entire company that motivates and inspires.

The ability to inspire is directly related to the ability to tell stories, says Lahti. It will increasingly be up to the CIO to connect the dots between the technology and what

is possible to achieve with it.

For example, she adds, researchers in Australia are using Hitachi VSP storage arrays to store petabytes of brain scan data, which they're analyzing as part of an effort to reverse the effects of Alzheimer's.

"Those kinds of stories can help explain to the people in your organization what technology is making possible and inspire them to be focused on a particular goal," she says.

Chief storyteller

The problem is that many CIOs who've come up through the technology ranks do not possess superior storytelling skills.

"You don't just wake up and know how to tell a story like that," she says. "You want to be inspiring, and you don't want to sound like a geek. For the last 10 years, CIOs have tried to get away from geekspeak, and with things like machine learning and AI back on the table, it will be a challenge to

avoid going back down that path."

Ron Guerrier, who was a top technology executive at Toyota for many years and is now CIO and secretary of innovation and technology for the state of Illinois, says technology leaders need to develop the same ability to influence decisions as external consultants enjoy.

"Can you stand shoulder to shoulder with them and tell the same story in a 5-page deck instead of a 50-page one?" he asks. "Our ability to evangelize technology and tell a story that embeds the business strategy is extremely important."

How do you get there? Practice, practice, practice, says Guerrier.

"When I was at Toyota, I sponsored Toastmasters," he says. "It sounds weird that the technology guy was sponsoring Toastmasters, but it was intentional. I was like, 'We all know you guys can't talk past a technology discussion. Let's give you a forum where you can practice.'"

> "Moving forward, we need to be **more aggressive** and perhaps **less judicious**."
>
> —**DAVID CHAVEZ**, VP OF INNOVATION AND ARCHITECTURE, AVAYA INNOVATION INCUBATOR

ROLE #5
Chief **instructional** officer

The need for technologists to develop better people skills is a long-standing cliché. But in five years, excellent interpersonal skills will be table stakes — not just for networking with peers in the C-suite but also for building stronger relationships with their staff.

"Developing empathy is really the key," says Randy Gross, CIO for CompTIA. "It's about looking at things from other people's perspective. If you understand where they're going to have success, you can understand how to educate them. That's much better than being the 'IT guy' who rains down policy after policy without understanding the impact they have on everyone else."

And as tech leaders' portfolios grow and they take on higher-level responsibilities, they'll need to lean heavily on staff. That also means taking a more active role in helping them develop new skills.

"I think most CIOs are in the mindset of doing continuous education for themselves," says David Chavez, vice president of innovation and architecture at Avaya Innovation Incubator. "And based on the rate technology is changing, they need to invite their staff to do something similar."

But what your staff gains in knowledge it could lose in productivity, he warns. You don't want your people spending so much time training that there's not enough left to get their work done. But if you don't train them well enough, they won't be able to do their jobs effectively. While tech leaders need to find the right balance, they should probably put a heavier emphasis on skills, he adds.

"Most of us feel like we need to be measured and judicious in how we develop our team," says Chavez. "Moving forward, we need to be more aggressive and perhaps less judicious." ◆

Dan Tynan is a frequent contributor to CIO.